Answer Box. . .

Do you approve extending compulsory retirement?

A consensus among Nuclear Division employees shows that few approve of the recent extension of the compulsory retirement age to 70. What impact the passing and signing of legislation which eliminates forced retirement is yet to be seen.

Following are random comments from employees in the four Nuclear Division plants:

William R. Blocker, ORNL Operations Division, comments "Some of our lawmakers are past their prime. . .perhaps, that's why the law passed by Congress on the first vote. You might say they had 'vested interests."

Willie Reed, Y-12 Guard Department, a young employee, thinks the enactment is "terrible." "We need to make room in the job market for a lot of young people coming on. Extending retirement age will close the door for many, and there aren't that many new jobs being created. I'm sure that by the time I'm 60 or 65, I'll be ready to retire to make room for some younger person."

Lois Greene, a registered nurse at ORGDP, is retiring in two months after nearly 32 years with Union Carbide. She believes the legal retirement age should have been lowered rather than raised. Greene feels the retirement age should be lowered to 60 or 55 years so that the retiree would have more years in which to enjoy life.

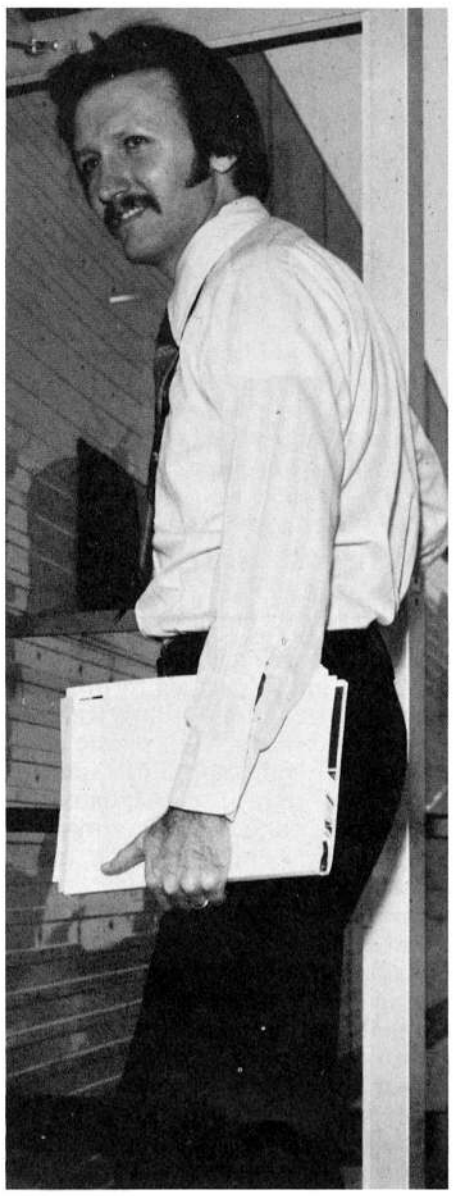
Four years with the Nuclear Division, **Jimmy C. Massey,** design engineer in Paducah's Engineering Division, commented: "The extension of mandatory retirement to age 70 for employees of private industry and the lifting of mandatory retirement for employees of the federal government is a welcome removal of a restriction on personal freedom. A decision to retire should be the choice of the individual. Changing the retirement age should slow the rate at which an employee can move upward through the company ranks because positions will no longer become available on a predictable basis. There will be havoc in office policies of many companies until this law becomes standard operating procedure."

Gail Carter, a clerk in the Uranium Resource Evaluation Program at ORGDP, said, "It is kind of early for me to be thinking about retirement since I have been here less than one year. I haven't given much thought to this subject. Basically, I feel that age 65 should be the retirement limit so that people have more time for themselves."

Will Wright, operator in the PGDP Power, Utilities and Chemicals Division, has been with the Nuclear Division 26 years. "I think a person should have an option to work as long as he wants to if he can do his job satisfactorily."

Carol Leffew, a secretary for four years in the ORNL Finance and Materials Division, feels that the advantages or disadvantages of retiring at age 70 depend on the person involved. "If people are able to work—both physically and mentally—then they should. But if a person is "just hanging on," he should step down in favor of someone more qualified."

(Please see page 3)



Jimmy C. Massey, PGDP

NUCLEAR DIVISION NEWS
UNION CARBIDE
a newspaper for employees of the nuclear division • union carbide corporation
Vol. 9/No. 12 June 8, 1978

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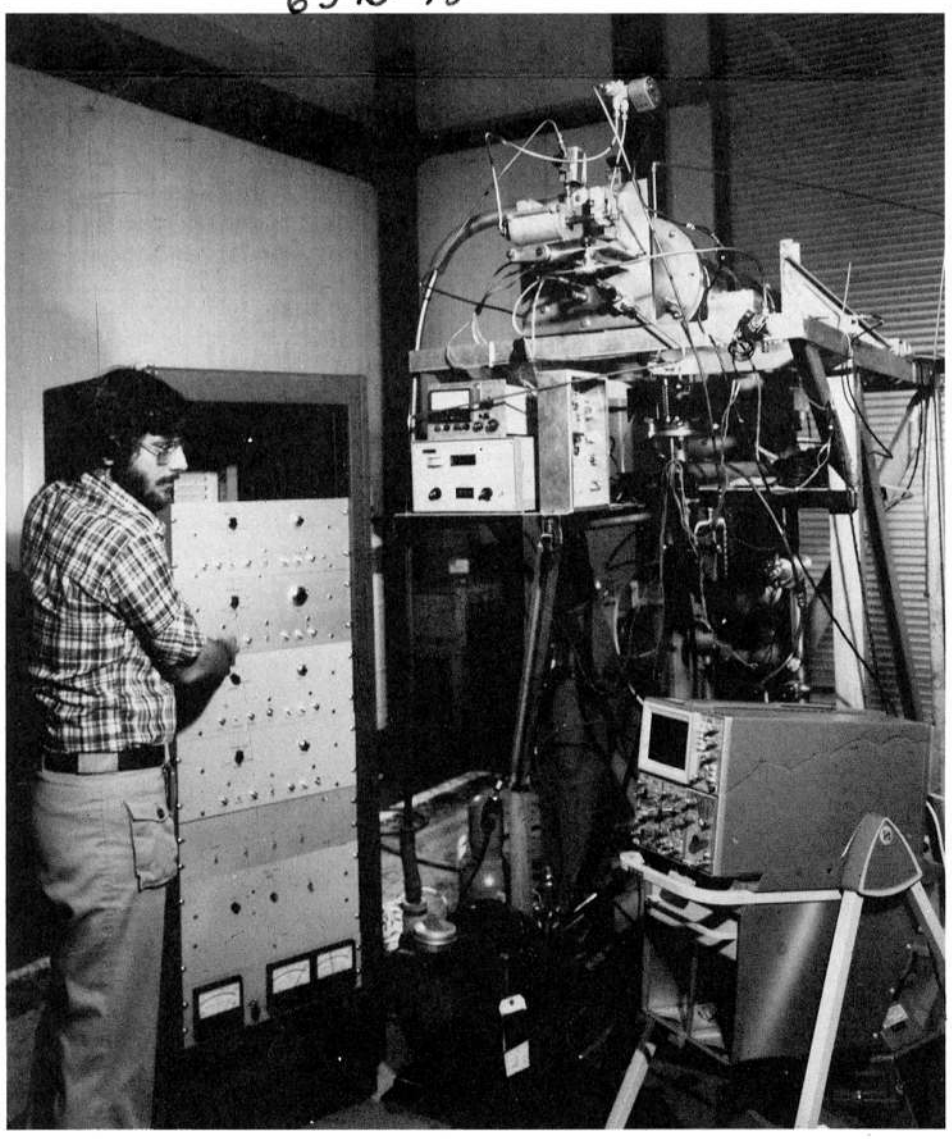


MORE FUEL FOR FUSION—Stan Milora of ORNL's Fusion Energy Division describes the operation of the pellet injector he and Chris Foster, also of Fusion Energy, developed to refuel the division's Impurities Study Experiment ISX. The device shot tiny pellets of frozen hydrogen into the ISX's gaseous fuel at speeds of more than 700 miles per hour, successfully demonstrating a refueling technique that will be needed to keep the fuel of future fusion reactors dense enough for the fusion reaction to be maintained. Researchers hope to keep the proper density by injecting additional fuel (hydrogen) while the reactor is operating.

Saving bonds goal in sight; campaign begins count-down

An interim report on the current Savings Bond drive in progress in the four plants shows that 10 percent more employees are now on payroll deductions. Since the drive began, additional participation shows Y-12 leading the field with 75.7 percent; ORGDP 73.1 percent; Paducah 72.6; and ORNL 44.2 percent.

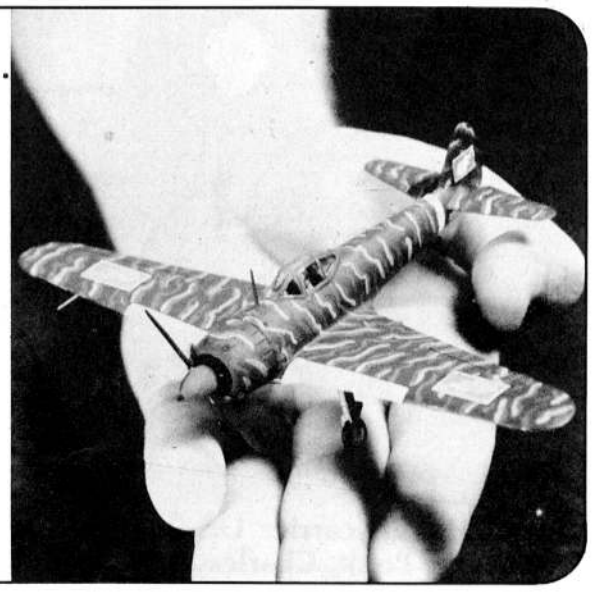
Bob Sherlin heads the four-plant drive and plant chairmen include: Frank Strang, ORGDP; Bill Graves, ORNL; Larry McLaughlin, Y-12 Plant; and Bill Taylor, Paducah. Sherlin expects final reports in tomorrow, June 9, and believes all plants will exceed their pre-drive goals. Goals for the four plants are: 80 percent for Y-12, ORGDP and Paducah, and 50 percent for ORNL.

An additional story on the history of savings bonds, how they began and how our country's history has been interlaced with their development can be found on page 7.

A final report on the campaign will be reported in the next issue of **Nuclear Division News.**

In this issue. . .

Bob Miles, ORNL's Physics Division, writes a "different drummer" on plastic modeling; story on page 2. He holds an example of his hobby—a Japanese Hayabusa—known to the Allies as "Oscar." The Hayabusa (Japanese for peregrine falcon) wears the markings of the Royal Thai Air Force.



Different drummer. . .

'Plastic modeling: more than just a hobby'

By Bob Miles

Editor's note—Robert W. "Bob" Miles, laboratory technician in ORNL's Physics Division, has associate degrees in electronic instrumentation, mechanical engineering and engineering graphics.

Before joining the Nuclear Division in 1977, he was a U.S. Air Force missile guidance technician and worked for Carolina Eastman as a processing operator. Miles is a member of the International Plastic Modelers' Society and the Knoxville Plastic Modelers' Society.

Another display case on the U.S.S. Yorktown

Plastic modeling is more than just a hobby to me; it's an art form I find both relaxing and rewarding. It allows me to convert a mass of plastic parts into an authentic replica of a specific aircraft or ship. I can create the prototype of one that never made it past the planning stage or make something that is lost forever.

Consider the P-47 Thunderbolt as an example. Today, only a handful remain. Very few are still flying. But during the 1940s, over 15,000 were built. This aircraft—a favorite subject with modelers—is almost gone.

Two things are necessary if you want to successfully build plastic models: patience and imagination. Patience is necessary because it takes time for glue, putty and paint to dry. Imagination is necessary because you must be able to "see" what the model is going to look like when you finish.

'I have over 140 models on display in the U.S.S. Yorktown.'

There is more to model building then "kit bashing"—just gluing parts together and putting on paint and decals. After deciding on which airplane model I want to build, I research the various versions, markings, details and models available.

Reference material is vital to a modeler trying to make an exact replica, and it comes in many forms. I can find descriptions, photos and drawings in books and magazines.

Another source is private photograph collections. Some people, such as Earl W. Sparks, ORNL Instrumentation and Controls Division, have even loaned me their private collections to have duplicated for my files. I am very grateful for such opportunities and I am always interested in contacting anyone with such material. I have taken photos at air shows and museums and of privately owned aircraft that I see traveling around.

After researching the craft, my next consideration is scale. One aircraft may be offered in several different sizes: 1/72, 1/48, 1/32. One seventy-second (1/72) means that one inch of the model is equal to 72 inches or six feet on the real thing. The smaller the denominator in the scale fraction, the larger the model.

The size of the model is also a factor in choosing a kit. The larger the model, the easier it is to work on and the more detail I can show. But, the larger it is, the more space it takes up. Also, generally, the larger model will cost more.

Kits of one specific aircraft may be offered by only one or by many companies. I try to pick the one that is closest to being correct. Some individuals buy the same model in the same scale from several different manufacturers just to build one model. They do this because one has the most accurate cockpit, one has the most accurate wheels and landing gear and the other has the most accurate wings and fuselage. This practice can be very expensive.

There is strong competition among model manufacturers to be the first and best with a new kit. Consider the case of the MIG-25 that Victor Belenko landed in Japan in 1976. Even

'There is strong competition among models manufacturers.'

before the military officials got their first look, representatives from one model manufacturer, using forged credentials, had measured and photographed the Soviet aircraft.

After I have the kit or kits I need and have decided which one to build, there are more decisions. Do I want it to look new or used? How much detail do I want to show? Do I want the cockpit open or closed? Do I want it to carry bombs, rockets or fuel tanks?

After making these decisions, I prepare the kit.

First, I check to see all that parts are accounted for and read the instructions. If any parts are missing I write the manufacturer for replacements. They are quite good about replacing damaged or missing parts.

Next, I wash all parts in a warm detergent bath. This takes off the grease that is used to make them come out of the mold. Then I paint what parts I can while they are still attached to the "tree" (this is the framework the parts are attached to).

After I cut parts from the "tree," I then trim off any excess plastic attached to the parts.

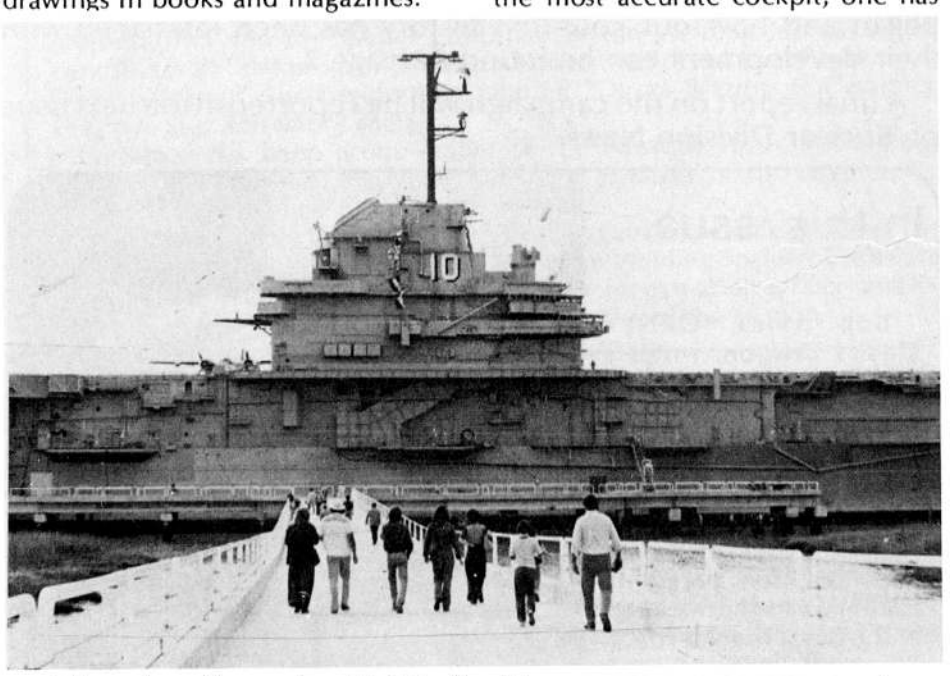
As I start to assemble the model, I leave off parts that may make painting easier. After assembling the parts comes the job of filling the cracks and seams. Usually some type of putty is used. After the putty dries, it is sanded to the right contour and shape.

Next, I usually put on a coat of primer to make sure there are no cracks or holes showing. If there are any, I apply more putty and sand it again. Metal polish or toothpaste—both very fine abrasives—are used to remove sanding scratches.

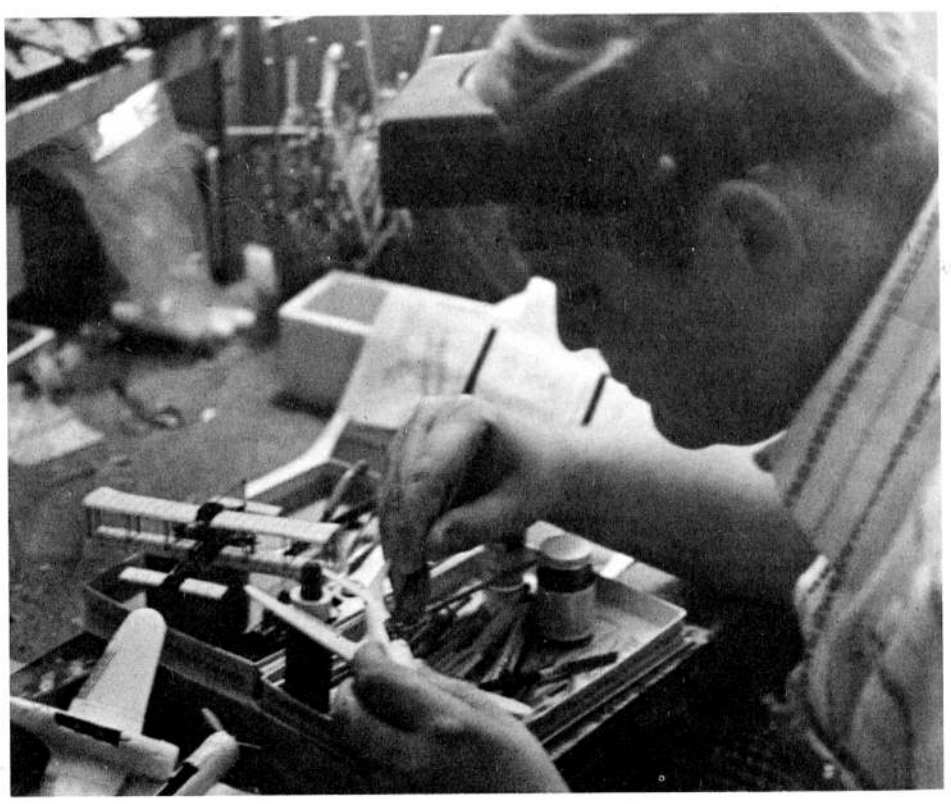
'How much detail do I want to show? Cockpits, rockets, etc.?

Next comes the painting. I mask off the areas I don't want painted with

(Please see page 5)



The aircraft carrier U.S.S. Yorktown, now a museum at Patriot's Point, Charleston, S.C.



question box...

If you have questions on company policy, write the Editor, **Nuclear Division News** (or telephone your question in, either to the editor, or to your plant contact). Space limitations may require some editing, but pertinent subject matter will not be omitted. Your name will not be used, and you will be given a personal answer if you so desire.

Nepotism policy

QUESTION: Does Union Carbide have a policy on nepotism? There is a nephew in my department reporting to his uncle and he seems to get favored treatment.

ANSWER: There is no formal Company policy prohibiting a person working for a close relative. Normally, however, we think it is best for a supervisor not to have a close relative under his/her supervision. There are exceptions to this general rule; for example, where a married couple is involved in a common research project.

We do not know the circumstances involved in the case to which you refer, but, when we can, we normally try to avoid this kind of situation.

ACES vs. solar

QUESTION: In the story on the Annual Cycle Energy System (ACES), which appeared in the February 16 issue, you compared ACES with a control house. Is there not a solar house with the other two? Why was there no comparison made between the solar and ACES houses?

ANSWER: One of the three houses in the Tennessee Energy Conservation in Housing (TECH) project does contain a solar energy system for space heating and hot water. The ACES and "control" houses are operated by ORNL staff, while the solar house is operated by the University of Tennessee. Data collected during the entire winter of 1977-78 give the following comparisons: the solar house required 5,600 kilowatt hours (kWhr) of electricity while the ACES house used 5,200 kWhr and the control house, which contains an electric resistance heating system, used 14,200 kWhr. Thus, energy usage was about the same in the solar and ACES houses but much greater in the control house. Peak loads imposed on the TVA system were 9.6 kW by the solar house, 3.1 kW by the ACES house, and 14.1 kW by the control house. Although peak demand was lowest in the ACES house, it could have been reduced in the solar house by using a load management operating strategy.

Company stores

QUESTION: Rumor has it that the Carbide store is going to stop selling items other than Carbide products. It this true?

ANSWER: For the past several months we have been reviewing the Company Stores operations with the object of reducing inventory and of limiting the number of products we merchandise. As a result of this review, we found that some items were priced equal to or slightly greater than the same items at local discount or wholesale outlets. In addition, we found that other items were not only bulky and hard to handle and store but were also creating a number of complaints due to malfunctions. Also, we were experiencing a high incidence of breakage on some items, and on others there was a slow turnover.

As a result of this survey and in order to effect a more manageable inventory, it was decided to discontinue carrying a number of items. We will continue to review this matter as time goes on.

Cafeteria prices

QUESTION: Is the ORGDP cafeteria intended to be a nonprofit service for employees? If so, how can the recent increases in numerous items be explained, when grocery prices in retail stores and salaries have not increased by a proportional amount? Employees are frequently in doubt as to the accuracy of the cost of their meals since the cashiers total the

(Please see page 8)

Answer box. . .

Compulsory

(Continued from page 1)

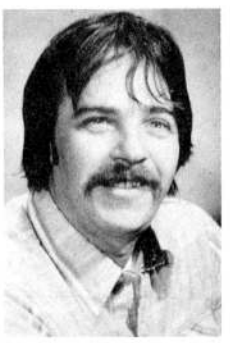
A 22-year ORNL employee, **Bonnie Reesor,** also of Finance and Materials, says: "I'm looking forward to retirement. My only concern is that raising the age to 70 will mean that the age for receiving Social Security benefits will be raised accordingly."

A. C. Farthing, retiree from the Plant Services Department at Paducah, says "The Social Security Board probably needs to reduce the number of recipients on its rolls in order to continue to meet its obligations. On the other hand, if the national budget officials, operating under senate and congressional pressure had kept their hot little hands out of the Social Security till their budget would be sound under present tax levels. Some of this money was used for things like welfare for people, some of whom never worked at all and, therefore, never added a dime to the Social Security fund.

Personally, I think age 65 is a good time to retire. Some, however, seem happier continuing to work. It must be frustrating for those in line for promotions to see some old "fuddy-duddy" totter on into 70 or on to senility instead of getting out at 65. I just hope this galloping inflation does not reach the point where I will be forced to go back to work. I could work again, but I just don't have the time."

Harold Mayberry, who retired at 65 from ORGDP Employee Relations in 1971, says he favors the extension of the retirement age to 70. He says it is the "right decision" and believes that if the law had been in effect when he was working, he would have stayed for another three years to complete a 30-year service record with the company.

Dufour, Hall assume new jobs at Paducah



Dufour

Hall

Charles D. Dufour has been promoted to the position of inspector in the Plant Engineering Division and Charles T. Hall has been named lieutenant in the Employee Relations Division's Guard Department at the Paducah Plant.

Dufour is a native of Lake Zurich, Ill. and joined Union Carbide in 1976 as a maintenance mechanic. He previously worked construction as a sheetrock finisher and painter. Dufour and his wife, Alice, reside on Park Avenue with their children, Jeffrey, Tracy and Robin.

Hall received his B.S. degree from Murray State University in 1968. He is a native of Harrisburg, Ill. and a veteran of the U.S. Army. He joined the Paducah plant's Employee Relations Division in 1977 and has worked as a fire driver and guard.

He and his wife, Anna, reside on Route 1, LaCenter, Ky. with their children, Laura, Charles and Jana.

wanted...

ORGDP

VAN POOL riders wanted from Oak Ridge to Portals 2, 3 or 4, 7:45-4:30 shift. R. C. Boals, plant extension 3-9471, home 483-3797.

Y-12 PLANT

RIDE from Railery Apartments, Lonas Road, Knoxville, to Central Portal, straight day. Vicki Gasaway, plant phone 3-7365.

JOIN OR FORM CAR POOL from Dandridge Avenue area, Knoxville, to Biology Portal, 8-4:30. Willena Carter, plant phone 3-7791.

RIDE OR JOIN CAR POOL from Broadacres Subdivision, Powell, to East Portal, 8-4:30 or 8:15-4:45. Plant phone 3-1261, home phone 947-0670.

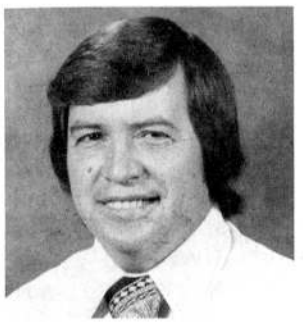
CAR POOL OR RIDE from West Hills area, Knoxville, to East Portal, 8-4:30. Kyle Johnson, home phone 584-6319.

CAR POOL MEMBERS from areas of West Outer, Waddell, Pennsylvania or Hillside, Oak Ridge, to East Portal, 8:15-4:45. Tom Burnett, plant phone 3-6939, home phone 483-1975.

CAR POOL OR RIDE for a summer faculty participant (early June to late August) from vicinity of Pennsylvania Avenue and Outer Drive, Oak Ridge, to East, North or West Portals, straight days. E. Sonder or R. A. Weeks, plant phones 3-1736 and 3-6896, respectively.

WILL JOIN CAR POOL from 237 West Tennessee, Oak Rige, to East Portal, 8:15-4:45. Dave Williams, plant phone 483-4429.

Miller named Y-12 materials foreman

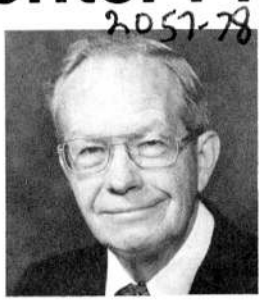


William A. Miller has been named a materials foreman in Y-12's Materials and Services.

A native of Oliver Springs, he joined Union Carbide in 1966 after working at French's Market. Miller and his wife, Blanche, a secretary in the Stores Department, live at Route 3, Oliver Springs. They have two daughters, Kim and Melanie.

retirements. . .

James Claude Bridges
ORGDP Finance
Materials & Services
27 years service



William R. Gall
General Engineering
ORNL
31 years service

Ted J. Kaplon
ORGDP
Capacity Expansion
11 years service

Robert P. Beard
Plant and Equipment
ORNL
22 years service

Carson E. Pafford
Paducah
Cascade Operations
25 years service

Joseph G. Scarborough
Plant and Equipment
ORNL
25 years service

anniversaries...

ORGDP

35 YEARS

Wilcox

William J. Wilcox, technical director for the Nuclear Division, joined Tennessee Eastman May 25, 1943, at the Y-12 Plant. He transferred to ORDGP in 1949, heading the Physics Department. He has a B.A. from Washington and Lee University and an M.S. from the University of Tennessee. Wilcox and his wife, Jeanie, live at 412 New York Avenue, Oak Ridge. They have three children, Kitty, Bill and Martha.

30 YEARS

Darrell A. Hyde, Computer Sciences; James R. Sumner, General Accounting; and Thomas W. Fulton Jr., Separations Systems.

25 YEARS

James E. Collins, Paul W. Pickrell, Paul E. Miller, Curtis R. Barlow and Ray E. Carnes.

20 YEARS

John L. Reagan

ORNL

35 YEARS

Virgil O. Haynes, manager of the Residential and Commercial Appliance Program in ORNL's Energy Dvision, joined Tennessee Eastman at Y-12 on June 20, 1943. He has worked in isotope separation, the small reactors program and the community systems program.

A graduate from the University of Idaho, Haynes and his wife, Juanita, have two children, Linda and Gary, a Y-12 Engineering Division employee. The Haynes home' is at 166 Northwestern, Oak Ridge.

30 YEARS

William A. Manuel, Plant and Equipment; Radford M. Carroll, Instrumentation and Controls; James D. Flynn Jr., Plant and Equipment; William R. Casto, Operations; J. C. Davis, Industrial Safety and Applied Health Physics; and J. Rand McNally Jr., Fusion Energy.

25 YEARS

Joseph T. Thomas, Hsnrietta R. Hendrickson, James R. Hensley, Onzie W. Christian, Irene H. Brogden, Leonard J. Shersky, James A. Bates, Clarence E. Everett and Carl J. McHargue.

20 YEARS

Herschel W. Godbee, Ronald V. Miskell, O. Bill Morgan Jr., Bonnie L. Straine, Randall S. Edwards, John R. Nicholson, Clyde S. Montgomery and Craig Whitmire Jr.

Y-12 PLANT

35 YEARS

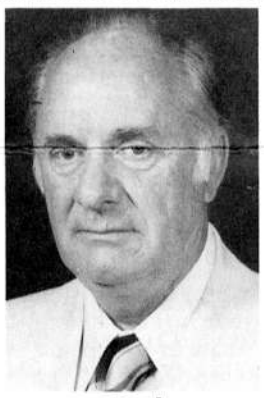
Hibbs

Williams

Roger F. Hibbs was named President of the Nuclear Division in 1969. He joined Tennessee Eastman June 1, 1943. A graduate of Eastern Illinois State University, Hibbs and his wife, Mary Jane, live at 916 West Outer Drive, Oak Ridge. They have eight children.

***

Roy D. Williams, production manager at Y-12, joined Tennessee Eastman June 8, 1943. A native of Cosby, Williams is a graduate of the University of Tennessee. He and his wife, Frantie, live at 701 West Hill Road, Knoxville. They have one son.



Boch

Alfred L. Boch, Office of Waste Isolation, joined Tennessee Eastman June 14, 1943. He has a B.S. in electrical engineering from Northeastern University and has done graduate work at the University of Tennessee. He is a registered engineerihng in Tennessee. Boch and his wife, Lela, have five children and live at 137 Westlook Circle, Oak Ridge.

30 YEARS

Roy E. Shelton, Alpha Five Assembly; Earl Jarrett, Beta Two Chemistry; Ralph E. Graham, M-Wing Shop; James L. Watkins, Research Services; George W. Oliphant, Electrical and Electronics; Earl D. Seagle, Process Maintenance; William R. Carver, Research Services and George L. Howard, Buildings, Grounds and Maintenance Shops.

25 YEARS

Charles A. Stout Jr., Paul I. Tinnel, George T. Wellborn, Charles Carson, Rufus T. Hill Jr., James W. Jenkins Jr., Earl W. Leach, Floyd W. Kyte and Wayne A. Groppe.

20 YEARS

William O. Gordon, William C. Moisson, Hugh C. Beeson and Koleen W. Gentry.

PADUCAH

25 YEARS

Annie R. Long, Joe C. Taylor and Robert I. Miller.

A large number of Nuclear Division employees contributed to the success of President Carter's recent visit to Oak Ridge. Their efforts are recognized in the following letter from Robert J. Hart, Manager of DOE's Oak Ridge Operations, to Roger F. Hibbs, Nuclear Division President:

Department of Energy
Oak Ridge Operations
P.O. Box E
Oak Ridge, Tennessee 37830

Office of the Manager

Area Code 615
Telephone 483-8611, Ext. 3-4242

May 25, 1978

Mr. Roger F. Hibbs, President
Union Carbide Corporation-Nuclear Division
Post Office Box "Y"
Oak Ridge, Tennessee 37830

Dear Roger:

Please accept my sincere appreciation for the outstanding job performed by Union Carbide Corporation-Nuclear Division in carrying out the briefings and tours for President Carter's visit.

In my judgment, the roundtable program at Oak Ridge National Laboratory and the briefings and tours at the Oak Ridge Gaseous Diffusion Plant were completely successful. All of the comments that I have received on the President's visit to our facilities have been very complimentary.

I am sure that you will convey my special thanks to those who participated.

Sincerely,

R. J. Hart
Manager

McDeerman, Robinson promoted

Two promotions have been announced at ORGDP. John R. McDeerman and John H. Robinson have been named pilot plant shift supervisors in the Separations Systems Division.

McDeerman, a LaFollette native, joined Union Carbide in 1974.

He is married to the former Vicky Melhorn of Wartburg. The McDeermans live at Route 2, Jacksboro, with their two children, Chris and Amy.

Robinson, a native of Anderson County, has been working at ORGDP for more than three years.

McDeerman

Robinson

Robinson and his wife Winona live at Route 5, Clinton with their two children, Michael and Lisa Michelle.

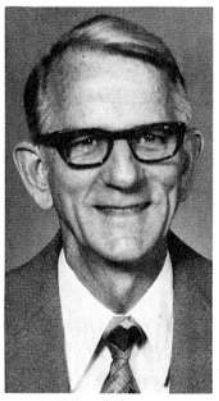
safety scoreboard

Time worked without a lost-time accident through June 1:

Paducah	14 Days	3,942,833 Man-Hours
ORGDP	56 Days	1,792,600 Man-Hours
Y-12 Plant	50 Days	1,441,000 Man-Hours
ORNL	142 Days	3,177,458 Man-Hours

Winesbro, de la Garza assume new posts in ORGDP operations

de la Garza



Winsbro

An organization change has been announced for the Operations Analysis and Planning Division at ORGDP.

Robert B. Winsbro was named to head up the Gas Centrifuge Enrichment Plant Support Department and Andres (Andy) de la Garza was named to head up the Combined Operations Analysis Department.

Winsbro, a native of Luray, Va., graduated from the University of Virginia with a B.S. degree in chemical engineering. He joined ORGDP 32 years ago and has held a number of assignments in the Operations Analysis and Planning Division.

He and his wife, Ella, live in the Crestwood Community in Kingston. The Winsbros have four children: Barbara, Kenneth, Bonnie and Linda. Kenneth is employed in the Operations Division at ORGDP.

De la Garza, who was born in Brownsville, Tex., joined ORGDP 34 years ago. He graduated from Rice University with a B.S. degree in mechanical engineering.

He was involved in various ORGDP start up operations when first employed. De la Garza served in various positions from 1948 in 1966 in the Operations Analysis Division. In 1966 he joined the AECOP organization, coordinating uranium-related studies and activities of the advanced systems and project Analysis group. He transferred to the Planning and Analysis Division five years ago to head up the Interfaces Staff Department.

De la Garza and his wife, Jean, live at 111 Ditman Lane, Oak Ridge. They have two daughters, Anita and Martha.

Norvell appointed centrifuge engineer

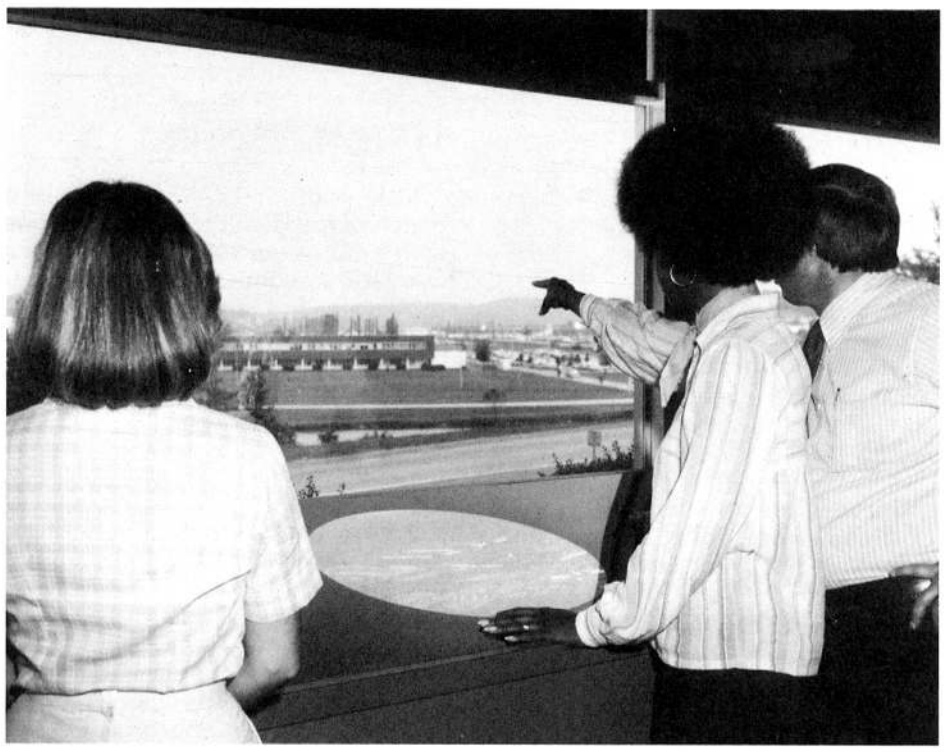
James Norvell, of the Garrett Corporation, AiResearch Manufacturing Company of California, Torrance, has been named as a staff engineer for the newly formed Operating Contractors Project Office for the Portsmouth Gas Centrifuge Enrichment Plant. The lead contractor for the office, in Oak Ridge, is Union Carbide. In his new position, Norvell will report to Les Anderson, project engineer for the Recycle/Assembly Facility.

The Project Office, with personnel located in Oak Ridge and in Portsmouth, will have the lead role for managing and/or coordinating the project's requirements for technology development, design definition, systems analysis and procurement of special equipment. It will serve as the contact point for DOE's Oak Ridge Operations Office, which has overall responsibility for the multibillion-dollar uranium enrichment plant near Portsmouth. Personnel from the Nuclear Division, Goodyear Atomic Corporation and AiResearch will staff the office.

Norvell is a Knoxville native and a graduate of Young High School and the University of Tennessee where he earned a B.S. degree in mechanical engineering. Before joining AiResearch, he was an engineer with DOE for two years in the Development and Planning Division.

Newest Wise Owl. . .

DO YOU HAVE A WEEDEATER?—Mike Mellon, Plant and Equipment Division at ORNL, holds the pair of safety glasses he was wearing May 18 when a rock flew up from his weedeater.



ORGDP overlook offers items of interest to area visitors

The visitor overlook across from ORGDP on State Route 58 has been completely renovated for Nuclear Division employees, their families and visitors to the Oak Ridge area.

This redesigned information center better describes the gaseous diffusion process and related activities and the vital role they are playing in helping to meet America's energy needs.

The Oak Ridge plant is one of three such facilities in the country operated for the Department of Energy. A second enrichment plant is operated by the Nuclear Division at Paducah, Ky., while Goodyear Atomic operates the third facility at Portsmouth, Ohio. The plants enrich uranium that is later converted into fuel for nuclear power reactors which produce electricity.

A committee made up of representatives from various organizations at ORGDP met in January to review the existing building and the older exhibits to determine what changes should be made. A format was chosen and work began on selection of the visuals and preparation of a script. A coordinated effort of the ORGDP Maintenance Division, Photography, and Graphic Arts, and others saw the facility ready for use in May.

The major goal for the renovated facility was to present, in layman's terms, the Oak Ridge Gaseous Diffusion Plant story in an interesting and informative manner which would appeal to all age groups. A blend of easy-to-follow graphics, such as photos, cartoons and a few graphs, all of which are backlighted, are synchronized with a tape recording. The recorded message lasts about eight minutes.

A visitor has only to touch a button upon entering the overlook. Electronic signals on the tape assure that the correct pictures are backlit at the appropriate time.

The overlook, which is open seven days a week from 8:30 a.m. to 6:30 p.m., is located across from and just west of the Portal 2 entrance on Route 58. Signs have been posted along portions of Routes 58 and 95 to advise motorists of the overlook location.

Visitors to the facility may use the nearby picnic tables which are located just to the rear of the overlook building.

'More than just a hobby'

(Continued from page 2)

tape or one of the other products available. The painting is done with a brush, spray can or air brush.

Now I put on parts I left off earlier. I put on the decals and markings desired and then spray the model completely with a gloss or dull coat of clear paint, depending on the sheen I want. This protects the paint and decals. The masking is then removed and the model is ready for display.

This described procedure is very general and there are many other fine points and tips that are used, but this description gives an idea of what we modelers go through.

The tips and shortcuts I use have been gathered from other modelers in clubs such as the one in Knoxville (Knoxville Plastic Modelers Society). They are also available in publications from the International Plastic Modelers Society (IPMS) - USA.

We have local and regional contests and conventions where we meet, compete and swap notes. There is even a national convention each year where we get to see some of the best modelers in competition. The national convention has seminars, tours, slide shows, movies, a contest, banquets with guest speakers and a national business meeting.

I don't consider myself one of the best modelers, but I've been told that I'm a very competent modeler. I have won a few trophies in some local contests. What I am most proud of is the fact that I have over 140 models on display on the aircraft carrier U.S.S. Yorktown, now a museum at Patriot's Point in Charleston, S.C. What pleases me most is the fact that hundreds of people get to see my work and a small piece of our history is preserved in miniature.

recreationotes. . .

Camera Club

The Carbide Camera Club meets Tuesday, June 13, at 7:30 p.m. in Cheyenne Hall, West Tyrone Road, Oak Ridge.

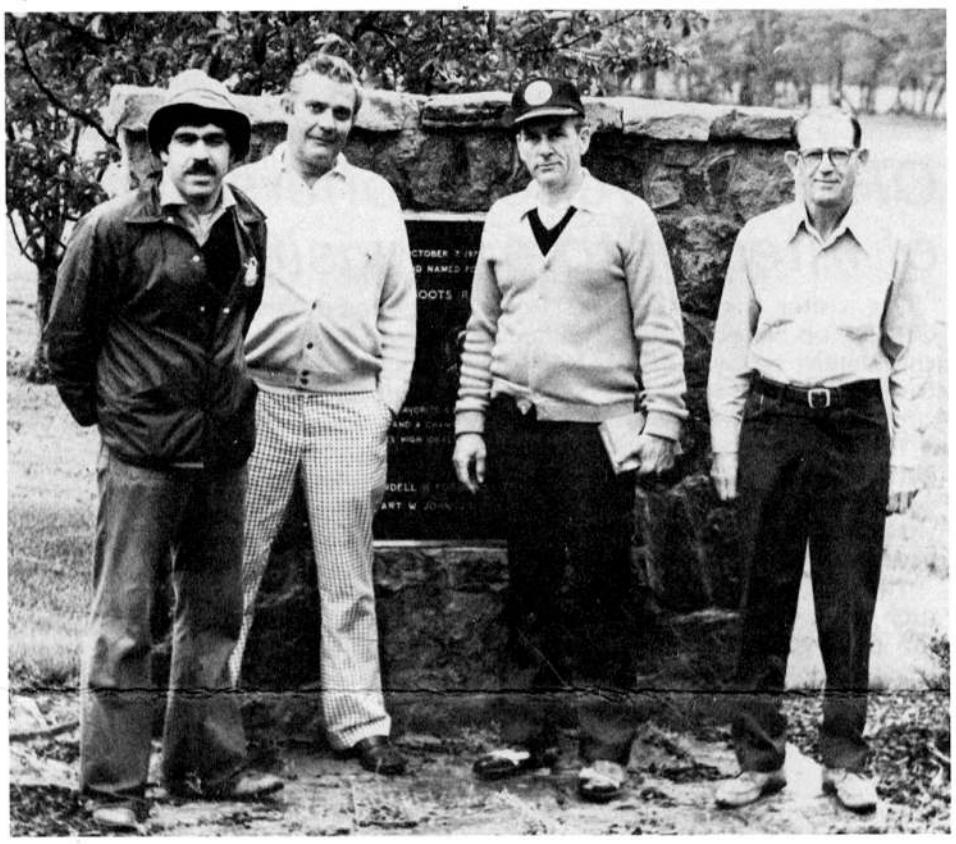
The guest speaker is Keith Bruner, a technical representative from Canon Camera Company. He will discuss the latest developments in equipment and will illustrate his talk with slides. Examples of the equipment will be on display.

Information on the club may be obtained from John Blankenship, extension 3-3533, or Lester Petrie, 3-1910.

Rifle League. . .

Jack Huff, Y-12, won the third match of the High Power Rifle League with a 473 out of 500. In second place was Don Kiplinger, ORNL, with 466; followed by Anthony Abatiello, ORGDP, with 461.

Other scores were: L. Weston, ORNL, 456; Hugo Bertini, Y-12, 446; R. Wiegand, ORGDP, 440; Troy Burklow, ORGDP, 411; P. Glover, ORNL, 409-2X; V. L. Fowler, ORNL, 409-1X; E. Hines, ORNL, 370; R. Hicks, ORNL, 306; and J. Han, Y-12, 211.



GRAY—DAY GREATS- Battling the bleak weather with cold clubs in hand, the scrabble team led by captain Mike Mazzone, left, skimmed along soggy fairways and drenched greens to claim the day's championship at Lake Barclay Golf Course with a surprising five under par. Winning supporters included from left, Bill Longton, Vernon Brown and Manley Fortune. Team member Bobby Gifford was not present for the photo.

Tee-Off Application for June 24

(Check Appropriate Plant)

☐ ORGDP—Southwest Point
☐ Y-12—Whittle Springs
☐ ORNL—Family Y.M.C.A. Center

1. _____ Leader

2. _____ Phone _____

3. _____ Bldg. _____

4. _____ Tee-Time _____

COMPLETE AND RETURN TO THS Y-12 RECREATION OFFICE BUILDING 9711-5, MS-001

Entries must be received prior to drawing on June 21, 1978.

Tee-off times for all tournaments will be drawn on Wednesdays prior to each Saturday's tournament. Golfers are responsible for reserving their own carts by contacting the pro shop following drawing for tee-off times. Please call the Recreation Department, 3-5833, after 3 p.m., Wednesday for your time.

Deerstalker strikes again. . .

(Part 2)
By Hugo W. Bertini

The rutting or mating season for deer is in the late fall, about mid-November to Mid-December. The gestation period is about 200 days or 6 1/2 to 7 months (or 17.28 megaseconds if you are a nut for SI units). Two fawns are generally born to a healthy mature doe the following June. The fawns are weaned after about three months but usually stay with the mother until the next spring. By that time they will be fully grown.

Bucks, in the rut, being somewhat irascible, will mate with does of any age; in the jargon of our 189's, they are DOM (dirty old men).

All bucks shed their antlers once a year, usually in January. They begin to grow again in April, and they come out with a velvet-looking covering. Later in the year the bucks will rub their antlers on tree trunks to get rid of the velvet, and in the process will usually destroy the tree. It takes considerably more than one rubbing to remove the unwanted velvet, so the bucks do a certain amount of damage to the forest. For this reason lumber companies usually welcome hunters on their property.

Contrary to popular belief there is only a loose correlation between the size of a buck's rack (i.e., the set of antlers one hopes to make eventually into a hat rack) and its age. A great deal depends on the season's feed. Game biologists use a deer's teeth to tell its age, not the antlers.

Still-hunting vs. stalking

All deer have a sharp sense of smell and a keen sense of hearing, and they have pretty fair eyesight—although like most mammals they are color blind. (I've often wondered how this fact was established. Can you imagine a wild deer sitting on a stool getting the same test for color blindness as we get from our Health Division? *Au contraire*—there has to be another way.) They do not appear to have a territory as such, but, rather, they have a home range of about 1 square mile which they cover in a fairly consistent pattern while feeding. It is the consistency of the pattern that gives rise to deer trails.

Deer are nocturnal; they hide and rest during the day and feed at night. They are usually bedded down for the day by 10:00 a.m. or earlier, and will move out again to feed at about dusk or later. That is why the still-hunter must get up at ungodly hours and be in the woods before daylight. He must be settled and quiet in order to have a chance for a deer while it is moving from its feeding area to its resting place in the early morning. Another time for still-hunting is at dusk. It is illegal to hunt during non-daylight hours.

Deer feed on nuts, shoots of small branches, grass, clover, mushrooms, corn, apples, etc. They apparently take advantage of the natural air currents during the full day. At night when cold air is moving down the hillside to accumulate in the valleys, the deer feed in the valleys where currents of air from the hillsides will bring them the scent of danger. The air apparently flows in the opposite direction, or up the sides of the hills, in the daytime and therefore the deer bed down in the higher elevations where presumably again, the natural air currents will warn them of danger. It must be rough having to decide friend or foe by smelling everyone all the time—especially when the "fragrance" given off by some people I know makes human eyes water even at 10 paces from the source.

Habits of the deer

As deer go, the white tail deer that we have in Tennessee are not very large. They are not very much bigger than a full grown Great Dane, and the deer in some herds are even smaller. Most people think that deer are as big as horses. Those are elk (Good Grief!).

There are essentially two ways to hunt deer: still-hunting and stalking. A still hunter must have a flair for fantasizing so that he can while away the hours sitting and doing nothing, or he must be too lazy to move (that's us) or both. A stalker moves slowly through the woods hoping to "jump" a deer. That doesn't mean to jump onto a deer, but to get close enough to a resting deer so that he will get a decent shot when the deer gets up. Unless it is shortly after a rainfall, no one can move silently through our Tennessee forests when the ground is covered by a 3-inch layer of dry leaves, which is usually the case. The idea is to shuffle through the leaves at the same slow pace and try to make the same sounds as a grazing deer.

Really dedicated stalkers will sometimes pause and yank mouthfuls of shoots off the ends of small branches with their teeth in order to make their noises more like those of a deer nibbling on the branches. (I'm only pulling your leg on that one folks.) A stalker will walk into the wind, or at least crosswise to it. Otherwise the wind will carry his scent ahead of him, and if the deer gets a whiff he will say to himself, ghetto-like, "Man, that dude don't smell like my brother. Come to think of it, he don't even smell like my sister," and the deer will take off.

patents granted. . .

To Walter J. Lackey Jr. and John D. Sease, both of ORNL, for "Process to Minimize Cracking of Pyrolytic Carbon Coatings."

To Thomas C. Quinby, ORNL, for "Method of Producing Homogeneous Mixed Metal Oxide Mixtures."

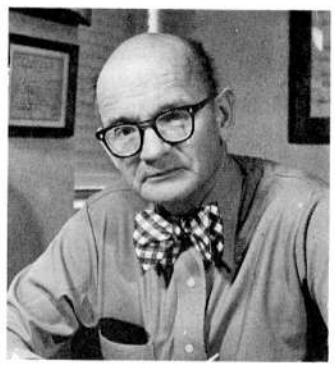
Skeet League. . .

Vernon Raaen, ORNL, won the Carbide Skeet League for April. Bert Searles, also of Y-12, won second place with 48.511 points; and Roy Hicks, ORNL, third place.

Epidemiology. . .

'Weeds in a Haystack'

by T. A. Lincoln, M.D.



*(Editor's Note: Dr. Lincoln alternates his regular column with "The Medicine Chest," where he answers questions from employees concerning health in general. Questions are handled in strict confidence, as they are handled in our Question Box. Just address your question to "Medicine Chest," **NUCLEAR DIVISION NEWS,** Building 9704-2, Stop 20, Y-12, or call the news editor in your plant, and give him or her your question on the telephone.)*

Every few weeks a report appears in the newspaper or on TV that "studies" now show that workers who have been exposed to a chemical have increased incidence of cancer or some other dread disease. Other reports may include people who have consumed a particular beverage, food or medicine or just may have lived in a certain area. The consequence is often alarm. The demand is for immediate remedial action. Because of this flood of potentially alarming information, readers or viewers need to have a little better awareness of the difficulties associated with performing such studies and the hazards in jumping to conclusions.

The scientific discipline involved is called epidemiology. Putting it in its simplest terms, it is the study of diseases or health conditions and factors which influence their occurrence in groups of people. It is probably one of the most difficult and inexact of the sciences. The complexities in interpreting data collected are sometimes so great that it is not unusual for two epidemiologists to reach widely different conclusions after reviewing the same information.

Problems in study

When studying a group of workers who have been exposed to a specific substance, many problems arise. An effect which occurs quickly after each exposure does not require complicated epidemiologic study. Common sense usually establishes the relationship. Sometimes, however, wrong conclusions can be reached if the judgment is not made after careful and thoughtful observation.

Many current epidemiologic studies look for degenerative diseases such as cancer or chronic lung disease which may not occur until twenty or more years after the exposure began. Frequently, low level exposures to the substance have occurred over many years. Rarely the sought for effect may be the result of a single or several brief exposures many years earlier.

Several questions need to be asked. What has been the population at risk? Who has been exposed and how much have they been exposed? Such information is frequently impossible to get. Records are destroyed; the ones that can be found are incomplete and quantifying exposures twenty or thirty years after they occurred is often a "guessing game" at best. Finding all those exposed is often not possible. Those who remained at work in a specific plant until they retired are relatively easy to find. Those who worked only a few years and then left a company are sometimes extremely difficult to find. Any study which looks at only a part of the population which has been at risk is always suspect. Epidemiologists have ways of overcoming some of these problems, but incompleteness always leads to uncertainties.

Death certificates

In studies of cancer incidence, it has been customary to look at death rates. Death is an end point on which most people can agree. Unfortunately, death certificates are completed by busy physicians who have little interest in their future research use. How does one interpret a death certificate which reads, "natural causes" or "old age"? An elite group of specialists, called nosologists, has appeared on the scene to struggle with this problem. They attempt to make sense out of death certificates and code the proper diagnoses.

When considering cancer, it should be obvious that many people survive. Recording only deaths will often miss many cases. If one looks at the incidence (new cases) or prevalence (how many people have it at a given moment) of cancer, he has to assume that every physician used the same criteria to arrive at the diagnosis. Even though making a cancer diagnosis requires following fairly rigid criteria, differences of opinion occur. Accuracy has been estimated at from 80 to 90 percent. With other diseases these differences are much greater, sometimes 35 to 50 percent accurate.

Multiple causes

In attempting to assess the significance of a number of, for example, cancers in a particular plant or community, one has to compare the rate in an unexposed population. Unfortunately, the control population may have an entirely different composition in age, sex, life styles, race, work, habits, recreation, etc. The selection of a proper "control" population is often extremely difficult. Ideally, the two groups should be identical except that one was exposed and one was not. Such an ideal group can almost never be found.

Most degenerative diseases such as heart disease, cancer or emphysema have multiple causes. Rarely does a specific disease occur only to people exposed to a specific agent. For this reason, it is like looking for "weeds in a haystack." Obviously, there will be thousands of weeds in the haystack. How does one then determine which weeds were caused by, for example, "that dry spell last spring." By comparison, looking for a needle in the haystack would be relatively easy. All one would have to do is to search meticulously with a magnetic detector. The challenge to epidemiologists is really not this tough, but sorting through the hundreds of factors influencing thousands of individuals can be a severe challenge.

It is worth remembering that many epidemiologists make their living by finding disturbing "associations" (linked in some way more often than they would by chance alone). Epidemiologists don't build their reputations by performing negative studies. They have to find associations to survive. The temptation to manipulate data to find that association is great. The manipulations performed are so complex that few people can question them.

Whenever a new and startling association is announced, take it with a large "grain of salt." Wait until the consistency, strength, specificity and temporal relationship of the association is demonstrated by multiple studies performed by several different high quality scientific groups. They should be totally unrelated to each other.

Remember the metaphor about finding "weeds in the haystack." It may apply to the latest announcement.

BOND BUNCH-These divisional solicitors for U.S. savings bonds are presenting the savings bond story to every person at PGDP who is not already on the payroll plan. The Cascade Operations Division, represented by Charlene Dawes, has already reached 100 percent participation. The plant goal is 80 percent by the end of the drive, June 8. Pictured at the committee meeting are back from left, William C. Taylor, chairman, Norm Windt, Stewart Tolar, Jerry Carter, Charlene Dawes, J. O. Dobson, Jim Chestnut, Jo Grisham and Bill Thompson. Front, from left are Velva Blayney, Les Freeman, Ralph Fenton, Pat Karr, Nadie Lahndorff and Darlene McPherson.

Treasury bonds actually began when nation waged Revolution

United States Savings Bonds, so named, have actually been on sale since 1935. Introduced by Treasury Secretary Henry Morgenthau Jr., as a means of encouraging broad public participation in government financing by making federal bonds available in small denominations, they were specifically tailored for the non-professional investor.

While Treasury bonds had been offered for purchase by individual citizens at various times in our history dating back to 1776, they had always before been marketable securities, subject to fluctuation. Many small savers, particularly buyers of Liberty Bonds during World War I, had experienced unexpected loss when forced by personal circumstance to sell their bonds in the market prior to maturity.

The Savings Bond was designed to make it impossible for any purchaser, however lacking in financial experience, to suffer loss under any conditions. It was offered as a savings type of bond with a schedule of fixed redemption values, redeemable at any time after a short holding period; it was issued in registered form (non-negotiable), and could be replaced in the event of loss or destruction.

'War bonds' begin

On May 1, 1941, the Series E Bond was introduced, and with it the start of a national volunteer program. It was a program which enlisted the nation's banks as voluntary sales agents; community leaders to set up volunteer committees in states and counties; the advertising and communications media to carry the bond story to the public, stressing both the nation's need and the individual citizen's opportunity.

The bond itself—the famous Series E—was patterned after its predecessors. It was to prove the most durable of all the series, and to become the world's most widely held security.

Payroll savings

In the postwar years Payroll Savings has continued to be the backbone of the Savings Bonds sales effort. Through the cooperation of thousands of companies operating and promoting the Plan, the endorsement of labor, and the enthusiastic participation of employees who find it the one sure way to accumulate reserves for the future, Payroll Savings has prospered; and in so doing has led the way for the Savings Bonds program to make a constantly growing contribution to the American economy.

Y 127509

about people...

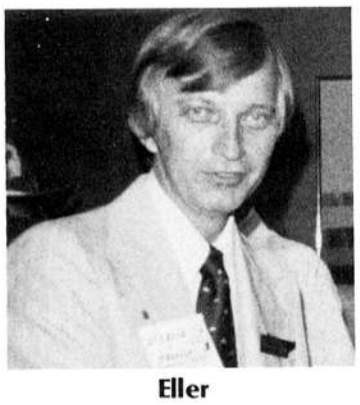
Hendricks

Weir

James R. Weir Jr. and **Robert W. Hendricks,** ORNL's Metals and Ceramics Division, have been elected as Fellows of the American Association for the Advancement of Science.

Weir, director of M&C, was cited for his research on mechanical properties and radiation damage in metals, and for his management of materials research.

Hendricks, a recent Industrial Research-100 award winner, was cited for his contributions to the field of materials science—in particular for his studies of the state of order by diffuse and small-angle X-ray and neutron scattering techniques.



Eller

Joe Eller, Y-12's Beta Two Expansion, has been named "Jaycee of the Year" in Tennessee. His activities in the Lake City Jaycees include work with the Little League, Toys for Tots, the Special Olympics in Oak Ridge, Books for Fort Pillow, Camp Jaycee Project (of which he was chairman), Outstanding Family project, and many other worthwhile endeavors. Being named outstanding Jaycee in Tennessee automatically qualified Eller for the national honor to be decided later this month.

Canonico, Slaughter and Cole

Domenic A. Canonico, left, and **Gerald M. Slaughter,** Metals and Ceramics Division, and Nancy C. Cole, a former M&C employee now with Combustion Engineering Inc., received the 1977 Rene D. Wasserman Award at the American Welding Society's annual luncheon. The award is presented for the best paper published in the Welding Journal which contributes to "the progress and/or advancement of the use of brazing or braze welding." Their paper was entitled "Direct Brazing of Ceramics, Graphite and Refractory Metals.

Canonico has been group leader of the Pressure Vessel Technology Laboratory since 1974; Slaughter has been manager of the engineering materials section since 1976.

Canonico recently received the 1978 Distinguished Service Award of the Northeast Tennessee Section of the American Welding Society. The award is presented for "many years of outstanding service as an officer and for untiring efforts in education and social activities of the section."

Separations Systems Picnic set June 24

The Separation Systems Division, ORGDP, has set its annual picnic for June 24 at the Clark Center Park. Activities begin with a softball game at 11:30, followed by a championship game between the Division and Development Maintenance. The dunking booth will be in operation from 1:15 to 3:15 p.m. and a magician act will go on at 3:15. Food will be served from 4 to 6 p.m., followed by games.

Tickets, available in each department, are $2.50 for adults; $1 for children six through 12. The menu consists of barbecued beef or pork and the usual trimmings.

All employees and friends are invited. Information may be obtained by calling extension 3-3545, or 3-9496.

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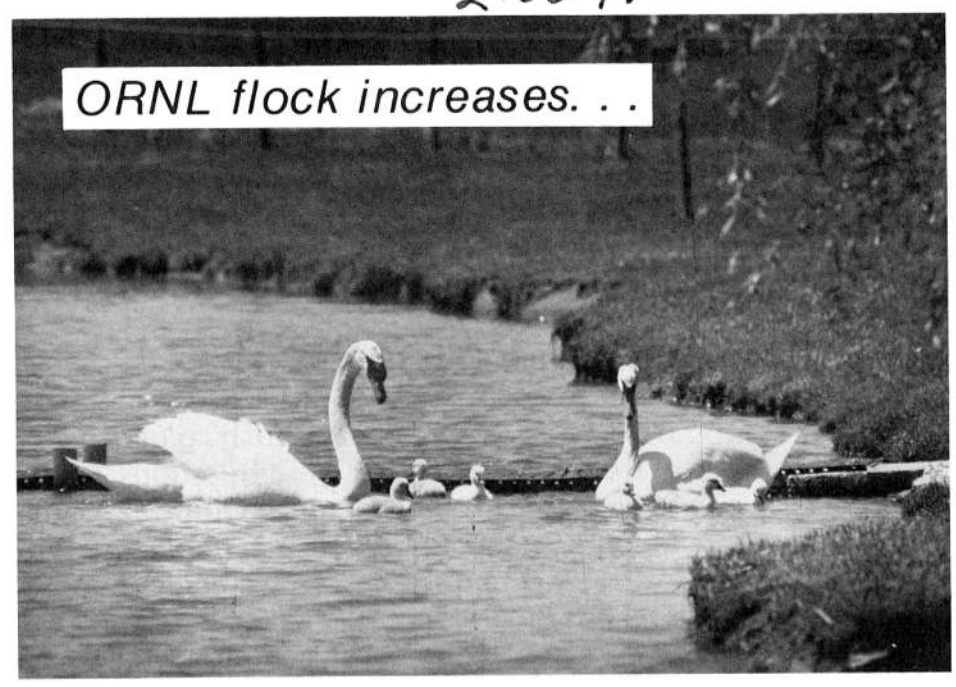

question box . . .

(Continued from page 3)

items in their heads, and frequently have been found to be in error. Would it be possible for itemized register receipts to be furnished to each customer so that at least an employee can be assured of a fair deal financially?

ANSWER: Although our intent is to operate the cafeterias on a break-even basis, this has not been done for several years. They have regularly lost money. The two principal cost elements are food and labor. While labor costs have normally changed on an annual basis, rising food costs occur on a month-by-month basis. We try to adjust the prices from time to time to minimize the loss in operating cafeterias.

We could obtain new equipment and have the cashiers itemize purchases; however, this would result in a significant delay in getting through the line and for that reason we do not plan to do this. If anyone finds that he/she has been incorrectly charged, a refund can be handled quickly. The cafeteria manager is available to receive comments relative to the menus and foods being served. Suggestions are always welcomed.

Savings bonds goals

QUESTION: The U.S. Savings Bond campaign is to be held May 8 through June 9, and employee participation goals have been established as follows: ORGDP, Y-12 and PGDP are 80 percent; ORNL is 50 percent. Why are goals set significantly lower for ORNL, the installation with the highest average salaries and the most personnel considered "professional?"

ANSWER: Goals are established for each installation based on the number of participants enrolled in the Savings Bond Payroll Savings Plan at the beginning of each bond campaign. At the present time, 37.4 percent of ORNL employees are participating in the bond program.

Historically, ORNL employees have not been very participative in this program. During the last formal bond campaign in 1976, employee participation at each installation exceeded 80 percent except ORNL, which attained 48 percent.

Based on ORNL current employee participation, it was decided that in order for their goal to be reasonable and attainable, it should be established at 50 percent employee participation.

patent granted. . .

To John H. Cantrell Jr., Ronald E. Goans and F. Bradford Meyers, all of ORNL, and Dr. Harry D. Stambaugh, a contractor from Plastic Surgery Associates, Louisville, Ky., for "Ultrasonic Technique for Characterizing Skin Burns."

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